

IOWA DEPARTMENT OF TRANSPORTATION

To Office: Bridges and Structures

Date: January 24, 2002

Attention: All Employees

Ref. No.: 521.2

From: Gary Novey

Office: Bridges and Structures

Subject: MM No. 38 (Review of Shop Drawings – Steel Structures)

As stated in the Iowa Department of Transportation, Standard Specifications for Highway and Bridge Construction, Series 2001, "...The Contractor shall understand that the Contracting Authority's review of working drawings submitted by the Contractor covers only requirements for strength and arrangement of component parts..." Furthermore, the Iowa Department of Transportation, Office of Bridges and Structures uses the following stamp on all Shop Drawings:

REVIEWED BY OFFICE OF BRIDGES AND STRUCTURES IOWA DEPARTMENT OF TRANSPORTATION
Reviewed in Accordance With Current Policies JUL 25 2001 <input type="checkbox"/> NO EXCEPTIONS TAKEN <input type="checkbox"/> MAKE CORRECTION NOTED (NO RESUBMITTAL NEC.) <input type="checkbox"/> AMEND AND RESUBMIT <input type="checkbox"/> FOR DISTRIBUTION BY _____

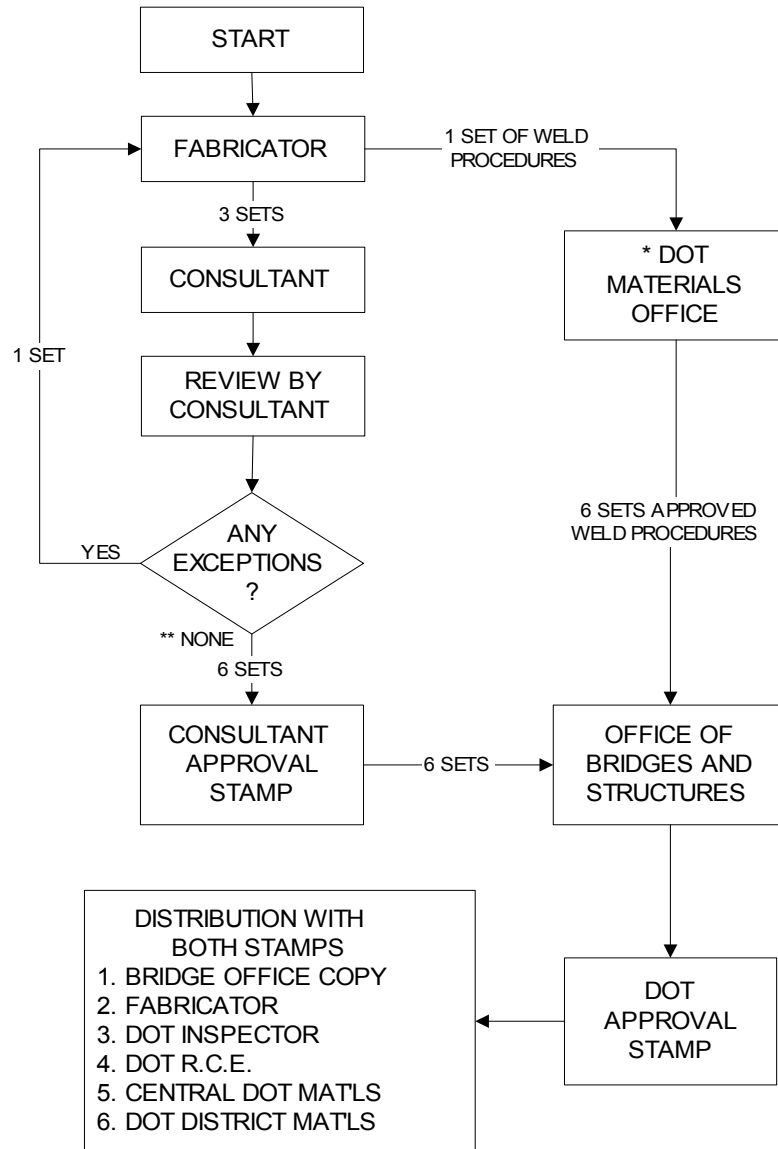
Shop drawings submitted by fabricators and suppliers should be checked to ensure that the structural adequacy of the design is maintained as detailed on the original design drawings. The extent of the Shop Drawing check will vary with the individual design. On curved and complex designs, the extent of the Shop Drawing check shall be discussed with the Section Leader or the Consultant Coordination Section prior to review.

A detailed check of the dimensions is not required. However, depending upon the level of difficulty or complexity of the structure, a "spot check" of critical locations may be performed. The intent of these guidelines does not preclude sound engineering judgment.

Changes from the contract plans or specifications, regardless of magnitude, should not be allowed unless they have been documented previously as acceptable or have been approved by the Section Leader or the Consultant Coordination Section.

Review and oversight of projects involving structures designed and developed by consultants is the responsibility of the Consultant Coordination Section. The following procedure shall be followed for all Shop Drawings reviewed by consultants:

Flow Chart of Structure Fabrication Drawings Reviewed by Consultant



* Communications between the fabricator and the DOT Materials Office is a separate approval process for welding procedures, QC, QA, etc.

** Including "APPROVED AS NOTED".

Note: Consultant may require additional sets of drawings.
Six sets of drawings may be submitted initially if few changes are anticipated.

As a means of establishing uniform practice and avoiding omissions, the following guidelines are provided for the “standard-type” wide flange and welded plate girder bridge.

The following items shall be checked:

1. Verify that all material shown on the Shop Drawings conforms to the size, thickness and material type shown on the contract plans.
2. Check the flange and web plate cutoffs
3. Check the location of main beam and girder splice locations, and details of connections not dimensioned on the contract plans
4. Check number and approximate location of diaphragms.
5. Check the number and size of bolts (diameter only – not length) in all connections
6. The number of shear studs
7. Check the size of all welds and welding details
8. The finish on bearing assemblies
9. The amount of camber and the camber diagram configuration should conform to the contract plans

The following items do not need to be checked:

1. The length of members or components
2. The location and gauge of holes
3. The camber diagram ordinates (girder lay down dimensions)
4. Web cutting diagrams
5. Attachments to expansion plates
6. Bill of Materials

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